

Breaking the barriers of time and space: the dawning of the great age of librarians*

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Purpose: This lecture, reflecting on future roles, posits the potential dawning of a "great age of librarians," if librarians make the conceptual shift of focusing on their own skills and activities rather than on their libraries.

Discussion: In the digital age, physical libraries are becoming less relevant to the communities that they serve. Librarians, however, are more necessary than ever in helping members of their communities navigate the increasingly complex information space. To meet their social responsibilities requires that

librarians seek new roles and recognize that their most important activities will take place outside of the physical library.

Conclusion: A great age of librarians is possible, but not guaranteed. We are at the very beginning of the development of a digital culture that parallels the print culture that has been dominant for five hundred years. Innovative and creative librarians have the potential to shape the development of that culture in ways that will truly serve the needs of their communities.

I want to start by quoting Andrew Pettegree, who points out that the dawn of the age of print was a tough time for libraries. He says,

The university libraries in Oxford and Cambridge fell into disuse. In Oxford the process of destruction was complete by January 1556, when the university made arrangements to sell off the library furniture.

By making ownership of books so much more common, print diminished the lustre of the Renaissance library...With possession of texts spreading through society it required a connoisseur or scholar to appreciate the special magnificence of the greatest collections. The mere accumulation of texts was no longer enough to impress a casual visitor and the library receded as a focus for conspicuous princely wealth. Many of the great fifteenth- and sixteenth-century collections did not survive.

In short,

The library as a cultural institution struggled to adapt to the new age of print. [1]

Of course, the library as a cultural institution did adapt, leading eventually to what I think of as the "Great Age of Libraries," lasting for perhaps 115 years or so, beginning in the late 19th century. This was an age of immense collection building, a scientific approach to the management of those collections, and an increasing focus on the role of the librarian in ensuring broad and equitable access to the knowledge contained in those collections. In 1556, the future of libraries might have looked bleak, but 400 years later, the best of them were grand and wonderful institutions, indeed.

You might think that I offer this comparison to provide some comfort, to argue against the doom and

gloom that we have been hearing for many years. Some of you may have seen last January, in the *Chronicle of Higher Education*, the "Academic Library Autopsy Report, 2050," which aroused a flurry of defensive comments from librarians and others eager to rebut the notion that the academic library was in mortal danger [2]. There are many other examples.

But actually, I am not here to provide that kind of comfort. In its impact on libraries, the shift to a digital world is far more profound than the shift from manuscript books to printed books. I agree with those who argue that libraries are becoming less relevant to the members of the communities that we serve.

I understand that this is deeply upsetting to librarians. In 2005, I gave a plenary talk at the "Charleston Conference" that touched on some of the themes that I intend to address today. I titled it "The End of Libraries." When I received the preprogram I was surprised, and somewhat amused, to find that my title had been changed to the grammatically awkward, "The End of Libraries as We Know It." The starkness of my actual title was apparently just a little too much to deal with.

The fact, though, is that I do not find this thought terribly distressing. To a considerable extent, this situation for libraries comes about because many of the needs that the twentieth century library was designed to address are now being better addressed via digital technologies and associated advances. As citizens of the world, we should be celebrating that fact.

This is not to say, of course, that these advances address all of the social needs that twentieth century libraries attempted to resolve. But for us to come to a clear understanding of these changes, and what they mean for us as individuals, requires that we think clearly and analytically about our relationship, as librarians, to both our libraries and to the larger communities that we serve. Indeed, I believe that if we do this, we find that while the great age of libraries is coming to an end, the great age of librarians is just beginning.

* The Janet Doe Lecture on the history or philosophy of medical librarianship, presented at MLA '11, the 111th Annual Meeting of the Medical Library Association; Minneapolis, MN; May 16, 2011; Ana D. Cleveland, AHIP, the 2010 Janet Doe Lecturer, gave the introduction.

In 1999, I wanted to become the editor of the *Bulletin of the Medical Library Association (BMLA)* because I love the way that words work. And I thought that I could be a good editor, at least in part, because I would pay close attention to the construction of sentences. I would help the authors be sure that the sentences that they wrote really said the things that they were trying to say.

I became a maniac for editing, fascinated by how often our word choices obscure meaning, rather than clarify it. I edited road signs and billboards. My favorite sign of all time was on a drive-up ATM: "Please stay in your car with the doors and windows closed and locked at all times while using this machine."

I noticed something in the articles that I was editing. Once it caught my attention, I began to notice it more and more, and it began to bother me. Then it became an obsession. And then it began to lead me to a fresh understanding of our profession and our future. Many of the articles that were being submitted described exciting and interesting projects. They reported cases of individuals doing fascinating and worthwhile new things, studies of groups of people that we served with the aim of learning to serve them better, and analyses of information and the ways in which its delivery was changing. But throughout this varied catalog of articles, I noticed a consistent thread. Whatever it was that was being done, it was the library that was reported as the agent. It was "The Library" that had initiated this new program or was engaged in this particular interesting project. The more that I noticed this, the more it began to trouble me. "Libraries," I thought, "are just buildings, or gatherings of objects, or an abstract diagram on an organization chart. Libraries don't *do* anything—people do." It is the librarians and their professional and paraprofessional colleagues who get things done. I started suggesting to authors that they change their phrasing, that they emphasize the importance of the people behind the actions. I started thinking about the roles that librarians have played throughout the centuries and that while libraries—be they buildings, collections, or organizations—have been the tools that we have used to deliver our service to society and culture, we have allowed them to overshadow the importance of the people who actually get things done.

The Janet Doe Lecture is supposed to be about the history or philosophy of medical librarianship. I am going to try to do a bit of both. I want to start by spending some time talking a little about what we have done in the past and then move from that to make some suggestions for a philosophy of librarianship that I think can guide us as we advance further into this quite amazing twenty-first century.

I.

All Doe lecturers seem to feel a compulsion to attempt to read all of the previous lectures in the months leading up to writing their own. This was emphasized

for me when, a couple of months after my selection was announced, Ana D. Cleveland, AHIP, sent me a big blue binder containing photocopies of all of the lectures, along with a note saying that passing this along was the tradition. A lovely, albeit completely anachronistic tradition, since all of the lectures are now available online, thanks to the National Library of Medicine's (NLM's) digitizing the complete run of the *BMLA* and the *Journal of the Medical Library Association (JMLA)*. I will, of course, dutifully send the expanding binder on to Mark E. Funk, AHIP, FMLA, next year's lecturer.

The lectures are wonderful, but it is somewhat daunting to realize that you are the next one in a long line and have a lot to live up to. Every Doe lecturer will tell you that preparing the lecture really does become a family project, and you find yourself turning to the better minds around you for advice on how best to approach your topic.

As I read, I found myself wishing that library school students would be required to read the full set or at least a significant sampling. An immersion into the thinking of the best minds in medical librarianship over the past forty-five years would go a long way toward putting a dent into the kind of historical ignorance that was such a frequent hallmark of the Library 2.0 debates of a few years ago. The lectures remind us that we are part of a dynamic profession and that we are always challenging ourselves to remain closely tied to the needs of our communities, making good use of the latest technology but retaining a very high-touch and personal approach.

Consider this, from Gertrude Annan's Doe Lecture of 1967:

The medical librarian of 1967 lives in a period of changing concepts, dramatic new methods, ever widening scientific horizons. To meet these challenges he must welcome the future with patient flexibility and ready enthusiasm. He is aware that no generation of librarians has seen such a swift transformation of techniques and that no generation has seen such a rapid expansion of scientific knowledge. [3]

Nineteen sixty-seven.

Or this, from Alfred Brandon's lecture two years later:

Today the typical medical librarian must be an administrator, educator, researcher, collector, public servant, fund raiser, accountant, architect, psychologist and public relations expert. With this enlightened viewpoint in mind, I object to being classified as the stereotyped librarian of twenty-five years ago. I object to following outmoded policies and procedures. I object to the status quo attitude and lack of experimentation and desire on the part of some for improved methodology for librarianship. [4]

This passion and technological savvy are hallmarks of all of the best librarians that I know.

In her 1971 Doe Lecture, Estelle Brodman described medical libraries as: "the recorded experiences of mankind in its attempt to study and take action on the problems of health and disease." She said that their purpose is "to bring the information gathered in the

past to bear on the questions of the present and the future, and thus to break down the barriers of time and space" [5]. The substance of my argument today is that as we move further into the digital age, the efficacy of libraries in fulfilling this mission is waning, while the importance of librarians using our full creativity, ingenuity, training, and traditions to advance it is more critically important than ever.

David Lankes once puckishly titled a presentation, "They Named the Building After Us," to emphasize the primacy of librarians [6]. It is not true, of course, but the notion that the name "library" was bestowed on the buildings where our work has traditionally been done, because that is where *librarians* were is a great way of shaking up our thinking. In reality, too many of our colleagues think that we are librarians only because we work in libraries.

It is something that my wife, Lynn Fortney, FMLA, has struggled with for two decades, ever since she quit working in the Lister Hill Library at the University of Alabama at Birmingham (UAB) and started working at EBSCO. She has always remained adamant that she is a librarian—she has never allowed her place of work to define her. It is her knowledge, passion, and dedication to the profession that define her. It is worth noting, by the way, that there are many librarians working at EBSCO, as well as at many of the other vendors and suppliers that are part of our community. And they are hired precisely because they are librarians, and the people who run those companies recognize that librarians bring an essential skill set and approach to the work that they do. They are not asked to quit being librarians once they go to work for those companies. It is because they are librarians that they get and keep and excel in those jobs.

So what is it that librarians bring? What, really, do we do? What is it that makes us unique?

More than four years ago, I addressed this in a blog post and said,

We connect people to knowledge. We bring people together with the intellectual content of the past and present so that new knowledge can be created. We provide the ways and means for people to find entertainment and solace and enlightenment and joy and delight in the intellectual, scientific and creative work of other people. This is what we have always been about. [7]

Lankes had a similar, more succinct formulation, "The Mission of Librarians is to Improve Society through Facilitating Knowledge Creation in their Communities" [8].

At the Lister Hill Library, we talk about communities in our strategic planning, about the impact that we want to have upon the multiple communities that we are a part of—the university, the local area, our profession, the world at large. We live in an intersecting web of communities, and the work that we do as librarians, when we are at our best, has a positive rippling effect on all of them.

Thinking about ourselves this way is important, because it helps us avoid the confusion of ends and

means. Some years ago, I was at a gathering of librarians who were speculating about the impacts of digital technologies on our futures. There was some discussion about whether or not there would even be "collections" in any meaningful sense of the term. "But what will that mean for us?" said one of them. "After all, building collections is what librarians *do*!"

But it is not. Well, yes, it is. That is what I mean about confusing means and ends. For that particular librarian (who, to her credit, had been a collection development librarian for several decades), to consider *not* being in the business of building collections cut right to the heart of her professional identity. But if we are thinking about the philosophy of librarianship, if we are thinking about the future of librarianship, then we have to be thinking about the purposes for which we have been building those collections. If the end point of librarianship is to build collections, then I think we are facing the end of our profession. You can only stretch the "building collections" metaphor so far in the digital age. But I do not think that is, or has ever been, the end point of librarianship—even when it has, in fact, for some of us, occupied nearly all of our time and attention during our normal working days.

If you view collection building as means to an end, however, and focus on what that end is, the historical development of libraries becomes clearer. If the goal of librarians is to "bring people together with the intellectual content of the past and present," building collections is a means to that end, and developing all of the services and structures that support the development and use of those collections makes sense. But that development has all been rooted in the fact that the intellectual content that we crave has been embodied in physical objects—books (and other printed materials), primarily, and increasingly through the twentieth century, various sorts of multimedia. But still, physical objects. In that kind of a world, the best tactic for bringing people together with intellectual content was to build a big building and then fill it with as much stuff as you could that you believed might at some point in time be useful to the members of your community. But the big building was never the point. It was just the best mechanism for getting there.

Pared to the essence, you can view all of the systems that we have developed for managing libraries over the past century and a half as fundamentally focused on tracking the movement of physical objects in and out of our library buildings. I am using "systems" here in the broad definition to include processes, procedures, and policies, as well as automated or semi-automated systems. Our technical services operations have been designed to get physical objects into the building legally and safely and to be sure that we know where they are. Our public services operations have been designed to get them efficiently into the hands of the people who can use them. That includes all of our traditional reference services, which, if they were not designed to get the physical object directly into the hands of the request-

or, were designed to get it into the hands of the reference librarian who could extract the necessary information and pass it along.

The library profession did a fabulous job of inventing and reinventing and revising and refining all of these systems to be as efficient as possible, while coping with all of the limitations inherent in encasing intellectual content within physical objects. The result was the "Great Age of Libraries" that most of us here grew up in.

That age is over. In a world in which intellectual content is encoded in bits and exists in the cloud in endlessly replicable constructs that can be flashed around the globe in seconds, those buildings and all of those systems are indeed less relevant and less important. The focus on the part of some librarians to try to figure out how to make "libraries" more relevant for their communities is the single most misguided response to the changes that we face that a librarian could make.

I want to emphasize one very important point here: to say that libraries are *less* relevant is not to say that they are *irrelevant*. It is a matter of proportion and degree. Academic library buildings remain tremendously important on most college campuses (although, as the Hopkins experiment shows, the physical location of the library building within the campus and the particular campus culture are critically important). In a recent article in the *Chronicle of Higher Education*, Robert Darnton points to numerous reports showing that library buildings, in many cases, seem to be more crowded than ever [9]. There are examples all across the country of public libraries that are very important components in the lives of their communities. School libraries, hospital libraries, law libraries, special libraries—all of these spaces, as spaces, continue to play a role. The world of information may be increasingly digital, but we remain very much physical beings, and physical beings need well-designed physical spaces.

But despite the continuing importance of the building and despite the fact that print will continue to be a robust technology, their relative importance as tools among the many tools that librarians use to meet their mission has substantially diminished. In a world in which intellectual content has been set free from physical containers, how could it be otherwise?

At this point, I should address a potential objection to this line of reasoning. The word "library" has multiple meanings, of course. I have been emphasizing the physicality, the building and the functions that go on inside it. But "the library" could also refer to the organization. So when someone says, "the library has done this or that, or the library has decided this or that," can't we understand that to be referring to the collective action of the people who make up the library organization?

We could, but frankly, it is a stretch. Consider these representative definitions of "library."

a place in which literary, musical, artistic, or reference materials (as books, manuscripts, recordings, or films) are kept for use but not for sale. [10]

A place in which literary and artistic materials, such as books, periodicals, newspapers, pamphlets, prints, records, and tapes, are kept for reading, reference, or lending. [11]

a set of books published as a series, often in a similar format. [12]

The common definitions all emphasize the physicality, the building, the place, the stuff. Lengthy definitions may mention the people who work in them, but the word itself is never defined as referring to the people. If we are effectively going to embrace our future as librarians in the digital world, we have got to make sure that our language reflects that. As long as we continue to ascribe agency to "the library," we will be tethering our imaginations and our creativity to those physical spaces. The language that we use affects the way that we think.

I've been making this argument for a long time. In one of my very first talks to my new staff, when I took on the job of director at the Lister Hill Library more than fifteen years ago, I said, "Our job is not to build a better library—it's to figure out how best to use our skills and talents to advance the goals of our communities. Sometimes that means we'll be doing the kinds of things that people associate with libraries. Sometimes it means we'll stop doing those sorts of things. And sometimes it means we'll be doing things that nobody ever associated a library with before."

Earlier, I mentioned the discussions from a few years ago about "Library 2.0." In a series of blog posts, I was pretty critical of those who proclaimed that the phrase represented a new vision of librarianship, and part of my critique was rooted in the notion that the Library 2.0 vision was not radical enough. For all of the emphasis on being change agents, using technology in innovative ways, and being user-centric and collaborative (all characteristic qualities of the best librarians I have known throughout my entire career), the focus of the Library 2.0 crowd was always on "The Library" and how to make "The Library" more relevant. The librarians who were most enthusiastic about the notion of Library 2.0 as representing a radical break from the past suffered, in my opinion, from a lack of imagination.

We must understand that if we limit our vision to the care and feeding of our buildings and our collections, if we spend too much time worrying about how to get people into the building so that we can serve them, we will fail to meet our critical responsibilities to society. The care and feeding of our buildings and collections still needs to be done, but we cannot allow it to define us.

II.

So much for the bit of history. What I want to do now is suggest a bit of a philosophy of librarianship that may help us prioritize and strategically position our organizations to meet the challenges inherent in the vast chaotic soup of information that we all now live in.

Back to Lankes. He uses "conversation theory" to anchor the role of librarians [13]. First elucidated by

Gordon Pask in the mid-1970s, conversation theory maintains that the fundamental building block of new knowledge is conversation. This conversation may occur among individuals, but it may also be the conversation that occurs within oneself. Information is what fuels those conversations. The core function of librarians, according to Lankes, is to facilitate conversations for the purpose of advancing knowledge.

Under this theory, solitary reading is not to be understood as a conversation with the author or with the book. What the reading experience does is fuel a conversation that one has with oneself. As the individual is changed by the knowledge thus gained, that may inspire or drive them to engage in other conversations with other people.

And from those myriad conversations, new knowledge is created.

When Lankes cautions against interpreting silent reading as conversation with the authors, he is referring primarily to books. In the information world that we are more familiar with, the journal literature in electronic form and particularly the apparatus of social networking, that conversation does begin, more and more, to be a conversation directly with the authors.

In the print world, even when referring to the journal literature, the readers/scholars take in the content of an article, have a discussion within themselves about the validity of it, incorporate whatever they can learn from it into their own knowledge of a subject, and eventually write another article that gets sent out into the world. The journal article is stimulating inner conversations.

But in the digital world, with the ability to comment directly, we are changing that model and enabling situations in which the reader and the writer can engage much more directly. The conversations become multiple. That inner conversation on the part of the reader is still taking place, but it can lead directly to conversation with the writer as well.

The degree to which such conversations effectively lead to the generation of new knowledge is still somewhat questionable. To date, there has been relatively little penetration into the peer-reviewed literature. Even those journals that actively encourage comment and discussion find that only a small proportion of articles gets any comment at all. A recent study of 138 high-impact medical journals has found that only 18% of the articles that had some kind of rapid-response commenting feature had any comments at all, and if they did, the average number of comments was 2 [14]. But we are just beginning to experiment, and many observers remain quite optimistic about the potential for these sorts of post-publication discussions.

Outside of the peer-reviewed literature, it does not take much exploring of comment threads in the most popular online resources to begin to despair. I will not even touch on political or cultural blogs or journals but will look at the comment threads on provocative articles in the *Chronicle of Higher Education*—the vast majority are clearly off-the-cuff expressions of deep-

seated biases. They are not conversation; they are emotional venting. They may be therapeutic for the writer and they may provide some gruesome entertainment for the reader, but they certainly are not the kind of conversation that leads to new knowledge. On the other hand, there are online forums like *The Scholarly Kitchen*, which focuses on publishing, in which very long comment threads typically do result in conversation, real give and take; where opinions can be modified; and where you get the sense that people really are listening to those they are interacting with.

It is important to remember that we are just now in the very, very early stages of this transformation from a world of knowledge encoded in print to a world where digital information is the dominant medium, and instantaneous broad communication has radically transformed the ways in which people interact. We do not have established norms and protocols. We are making it up as we go along. Which experiments will bear fruit and which will fall by the wayside remains to be seen. It is unlikely that any of us here will live long enough to see the emergence of a truly mature digital culture that parallels the print culture that we all grew up in.

In a world in which intellectual content was encased in physical objects, we built the great library systems of the twentieth century. In the incunabula period of the digital world, what should we do instead?

Let me just mention a few areas where I think the skills of librarians are going to be critical in helping to make the most of the opportunities that digital culture presents us with. My examples are drawn primarily from academia, since that is the milieu I am most familiar with, but there is no doubt that librarians in all types of settings, large and small, have similar opportunities.

Clearly, we need to be developing systems that cut through the clutter, that help people distinguish between what is worthwhile for them and what is not, and that help them get directly to the information resources that they need. That is what we did in the world of print through collection development and cataloging principles.

Consider developments like PLoS ONE, BMJ Open, or Nature's Scientific Reports. The theory here is that rather than having journals be selective and guide readers toward the "best" stuff, journals should publish *everything* that is scientifically sound, and the community will sort it out. It is a fascinating notion, although to some librarians, it may appear a little naïve.

It is not just that we need better filtering systems, ways of separating out what is of interest from what is not. As Nicholas Carr has pointed out, the real overload comes from there being too much that is interesting, too much that is valuable. He calls it "ambient overload" [15]. Most days, we are not looking for a needle in a haystack; we have a haystack-sized pile of needles. And we still have limited amounts of time. That is a fundamentally

different problem to solve, and it needs to get more of our attention.

The development of institutional repositories, still in its very infancy, represents a possible move in this direction. The technology, clunky as it is at this stage, recognizes the necessity of structuring, organizing, applying useful metadata, and addressing a very broad assortment of digital objects. It is unfortunate that so much of the focus and energy being devoted to institutional repository development is still focused on capturing copies (and often imperfect copies at that) of published peer-reviewed articles. What we really need to capture and organize is the gray literature and the locally developed materials that never go through a traditional publication process. Perhaps even more important is the need to develop robust systems of data curation.

Some of you, in the academic sphere, are working in institutions that either have or are hoping to have funding through the National Institutes of Health's Clinical and Translational Science Awards (CTSAs) program. Even if you are not in those institutions and even if you are not in academic institutions, it is important to have a general understanding of what this program is about, because it represents a very different way of thinking about how biomedical research in this country is done, and it will have rippling effects that will impact all of us.

The CTSa program envisions much more collaboration among researchers, among institutions, and with the local community than has historically been the case. Given the traditional competition among researchers and institutions, this really is a seismic shift. The assumption underlying it is that with the complexity of the research problems facing us, the amounts of data that we are dealing with, and the challenges of managing and analyzing that data, we must move to a much more collaborative environment. So far, relatively little collaboration has actually taken place, as the institutions that received the initial grants have been dealing with their internal organizations and infrastructure development. But it is coming, and librarians, who almost uniquely among the members of their institutions have a long history of inter-institutional cooperation, have the opportunity to play a key role.

An example of the kind of thing that is possible is the Alzheimer's research work that was reported last fall [16]. Great strides were made much more quickly than they might have been because the group of researchers from different institutions were actively sharing data and collaborating on its analysis. Some in the open access community trumpeted this as evidence for the importance of open access to the research literature, but of course it was nothing of the kind. These successes did not happen because the scientists had open access to peer-reviewed reports of previous experiments. They had collaborative access to the data of the experiments that they were engaged in now. That is what made the difference. Developing data curation systems that can facilitate these sorts of conversations is at the heart of the CTSa model, and it

is an area where librarians have an opportunity, and a unique skill set, for contributing.

In the education arena, we have the opportunity for similar sorts of engagement. Increasingly, faculty in the schools are recognizing that the complexity of the information space that their students need to work in requires specialists in information management to help them develop the skills that they need. When I started my library career, it was extremely difficult for librarians to get any time in the medical school curriculum. Medical school faculty had a tendency to think either that "library skills" were something that the students could pick up on their own or something that they themselves could impart. While I do not mean to imply that those attitudes do not still exist, they are increasingly breaking down. Just a few months ago, I was at a dinner sitting next to our recently retired chair of pathology, who had been running the training program for young investigators in our UAB Center for Clinical and Translational Sciences. He went on at length about how important it was for those junior faculty to get to know the librarians at the very beginnings of their careers, because it would be so important to them going forward to have established a very strong collegial relationship.

I will give you one more example from my institution. As part of the attempt to make better connections between the basic science and clinical parts of the curriculum, all of our third- and fourth-year medical students are required to develop a presentation on a clinical case, where they discuss the basic science principles underlying diagnosis and treatment options. Because several of our librarians have been working closely with the school through the redevelopment of the curriculum, they were asked to work with the students on helping them develop both the evidence base for their analyses and conclusions and their presentation skills. I attended an assessment conference at the conclusion of the pilot phase, and the course director went on at length about the important contributions made by the Lister Hill Library faculty. What most delighted me was his repeated reference to his collaborators as "faculty." Of course, he knows that we are librarians, but just like he would refer to the "faculty" from biophysics, surgery, or any of the other departments, he chose a word that reflected his assessment that the folks from Lister Hill Library were full colleagues and collaborators.

The ability to engage with faculty and students in these ways is representative of the kinds of expanded roles that we will be called upon to play if we are to continue that critical role of facilitating conversation for the creation of new knowledge. And it will not have much to do with "The Library." Which, as I said earlier, does not mean that the library loses all importance or that many of our traditional roles will not still be critical. The building, in most cases, will become more of a collaborative space, and making sure that in design and layout it continues to meet the needs of the community will require constant atten-

tion, time, and money. Librarians will continue to be the people with primary responsibility for allocating the institution's financial resources for the acquisition of and access to information resources that will still cost money. We will continue to need to develop and improve the systems that help people make their way efficiently and effectively through the information space. But whereas in the past virtually all of the important work of a librarian took place in the library, our most important work will now take place outside.

I think it is an exciting future, and one in which we will see our contributions as librarians more highly valued than ever. I might even go so far as to say that it is an inevitable future—in the sense that the functions that I describe will have to be done and that the people who will be best positioned to do them will be people who have the kinds of training, tradition, and outlook that librarians have. But that does not mean that it is an inevitable future for each of us in this room.

Some of us work in institutions where we feel that no amount of ingenuity on our part, no amount of creativity will enable us to make progress toward this kind of librarianship. We may feel frustrated by the bureaucracies, by the lack of imagination on the part of decision makers, and by the lack of resources. Those are realities that will never go away. They have nothing in particular to do with librarianship. It is in the nature of organizations, and some of us will inevitably spend some part of our careers in organizations that do not support the best that we could do. But then I think of a presentation that David Rothman did at the Midcontinental Chapter of the Medical Library Association (MCMLA) conference in 2010—one might argue that he had been working in such an institution. And yet, he was creatively doing fascinating things and having a good time. He turned the limitations of his position into creative opportunities. His presentation is up on his blog, along with lots of other fascinating stuff, and it is worth your time to take a look [17].

But the bigger dangers come not from the institutions in which we work; they come from within us. Fear of change and fear of failure are natural human emotions. They are not qualities that are peculiar to librarianship. Neither are they age specific. The fact is that, in any organization of people, there is going to be a wide range of comfort levels. Some of our colleagues are going to be very resistant to the notion of creating the kind of future that I am trying to describe. But I do not believe that is true of most of us.

Earlier, I spoke about the need to figure out the balance between taking on new things, figuring out which traditional things to keep doing in some form and which traditional things to quit doing. For many librarians, I think that last category can be the toughest one of all. We have been through this exercise a number of times in my place. Make a list of all of the major activities that you engage in. Then prioritize them in terms of importance. Then take the bottom third and say you are not going to do them anymore. But they are *all* important, you say. Of

course, they are. If they were unimportant, you would not be doing them at all. But if you are going to expand and take on necessary new roles then you have to be able to shift your existing resources toward those new tasks, and that means taking time and energy away from existing tasks. That requires a kind of mental discipline and focus that we do not exercise nearly enough.

That is why I worry a bit when I see ads for “electronic resources librarians” (ERLs) or “digital services librarians.” Now, I am sure that some of you may have those titles and many of you may work in libraries where there are positions with those titles, and those jobs may be a very good fit. But to give you a sense of why I worry, here is the list of job responsibilities from an ad that appeared last January for such a position:

The ERL is responsible for managing the Library's electronic products. Duties include setting up and monitoring trials, order preparation, license review and negotiation, subscription maintenance, order cancellations, order ceases, order claims, renewals, and payments with a university purchasing card. The ERL manages the EZProxy configuration files. ERL has the primary responsibility for the ERM, updates to our Serials Solutions products, and updates to local listings. The ERL monitors work flows in areas of responsibility to meet departmental priorities; sets unit priorities in consultation with Head of Acquisitions; insures work is completed in a timely and efficient manner; monitors problems in work flow or backlogs and works in coordination with other library staff to take appropriate action to process heavy flow of orders. The ERL extracts, compiles, and analyzes usage statistics and other statistics related to electronic resources. The ERL supervises one full time library assistant and may assign and monitor tasks assigned to other acquisitions staff on an as needed basis.

I do not know the specifics of how this place is organized (it is not a health sciences library), and it may make perfect sense within its structure. But what I fear it represents is a sense that we cannot stop doing all of the things that our librarians are currently doing in order to address the challenges of dealing with digital materials, so we are going to create one position and get some smart and energetic librarian who can handle everything associated with digital. And then the rest of us can continue doing the essential jobs that we are doing and not have to worry about all that weird stuff.

But if we are not all thinking of ourselves as digital services librarians, we are in trouble. Yes, in many libraries we are going to continue to deal with print, although for the health sciences that is rapidly becoming a very small proportion of our work. We need to flip our energies and systems around, so that we are aligning our human resources the same way that we are aligning our financial resources, and so our systems and processes are designed to adequately support that realignment.

Finally, we need to recognize that creating this future is not entirely up to us. We need to do a much better job of engaging with the other key players—not just the students, faculty, clinicians, and patients in

our institutions, but with the vendors, suppliers, and publishers that we do business with.

I am as committed to the importance of making the scholarly literature freely available to all as anybody in this room. But I do not believe that access alone, particularly when it is embargoed access to an author's final manuscript, is very much of an achievement or that it gets us very far toward the kind of world that we need to create. Library advocacy for open access has, unfortunately, taken on the form of an adversarial advocacy that demonizes publishers, uses rhetorical shortcuts to gloss over structural complexities, and ignores the true complex of interests that need to be carefully balanced if we are to achieve a mature and robust digital scholarly communication enterprise.

In the wake of a decade of this kind of open access advocacy, what we see is that the position of the commercial publishers has been strengthened as they have adopted various open access strategies; the small society publishers, who should be our natural allies have been weakened; and on our individual campuses, our relationships with many of our faculty, particularly those who are in leadership positions in their professional societies, are jeopardized. And the financial pressures that we face have not lessened one bit.

The adversarial strategy has been developed to take advantage of the anger and distrust that so many librarians have toward the publishing community. Believe me, I understand those emotions. Alabama has been among the hardest hit of any state in the country in cuts to higher education over the last four years. In my case, those cuts have resulted in my having roughly half as much to spend on content in 2009 as I had in 2005. A frustrating situation indeed. But when the situation is this dire, that is precisely when we cannot afford to make decisions or to form courses of action out of emotions. In our case, we thought carefully about what the priorities for our institution were and how best to spend the money that we had. We stepped away from the big deals. We went from having access to all of Elsevier's ScienceDirect to having fewer than twenty Elsevier journals, carefully selected on a title-by-title basis. We did the same with the other big publisher packages. We used it as an opportunity to increase our engagement with our community and to gather specific evidence on the impact that these changes were having on research and education, and we tried to develop some innovative strategies to connect people to content, to keep the discussion going. This year, funding is improving, and we are better positioned than we were four years ago to make good choices with the funds that we have.

But my frustration with the financial realities does not blind me to the fact that publishers are essential partners in the scholarly communication enterprise. My own view is pretty well represented in the statement of purpose for the Chicago Collaborative:

The Chicago Collaborative was created from a conviction that we are at a pivotal moment in the history of scholarly

communication...The founding members...believe that success...will require a relationship of trust and a spirit of collaboration among all stakeholders. Without this essential engagement, we will fail to meet our responsibilities to society. [18]

But adversarial advocacy negates this. Instead of fostering partnerships, it builds walls, creates enemies. It wastes time, and it will not get us to the future that we need. I think the report from the Scholarly Publishing Roundtable, which I was fortunate enough to participate in, presents a much more productive path towards open access. The report's recommendations have been incorporated into the America COMPETES Act, which was passed late last year, and I hope that many in the library community will be able to support them.

Working with publishers to build the future that we want does not mean always agreeing with them, and it certainly does not mean not being tough negotiators or giving in to pricing or licensing terms that are not in the best interests of our communities. But it does mean recognizing that most people in publishing are people of good will, who are in publishing because they also believe in the importance of advancing knowledge and the public good. The fact that they want to create a future in which their organizations thrive does not strike me as any different from the way that I feel about mine.

Building a future for scholarly communication that serves the interests of society will require collaborative efforts among all of the stakeholders. It will require patience and the ability to listen and learn from others, while remaining true to our professional values.

There is plenty to be done. I have not even gone into some of the more specialized areas represented by informationists and bioinformationists. Operating effectively in these environments will require a continually developing skillset, of course, but more importantly, it will require librarians who are excited about new possibilities, who are eager to develop partnerships, who are effective in communicating their expertise, and who are comfortably nimble in very uncertain terrain.

III.

"The Great Age of Librarians." I believe that we are at the threshold. But just at the very threshold—the very beginning. The incunabula period of the digital age.

Several years ago, I was in a bar in Frankfurt, Germany. I got into conversation with a couple of guys, one of whom was Jan Velterop, who, at the time, was the publisher of Biomed Central. The other guy was unknown to me but was passionately interested in many of the same things that I was. I started talking about this notion of the incunabula period of the digital age; he got very excited and said, "Yes, that's it exactly! Here, let me show you..."; and he pulled out his laptop to show me a PowerPoint slide. That was my first meeting with Geoffrey Bilder.

The slide that Geoff showed me presented the timeline from the beginning of printing to the beginning of a mature print culture, the culture that we all grew up in. It starts in 1447, with the Gutenberg press, continues through the development of the great book fairs, the scientific journals, and copyright and publication of the *Encyclopedie*—all those things that had to happen for print culture to flourish. He marks the end of the early modern period at about 1789, the beginning of the French Revolution. More than three hundred years to get from that first technological development to what we can begin to recognize as the modern world of print. He then overlays the timeline of the beginnings of digital culture, starting with Vannevar Bush in 1945. We are only sixty-five years into the digital culture that we are starting to shape. Just the very beginning.

I have heard arguments that the timeline will inevitably be much faster because the rate of technological change is so much faster. But the development of a mature print culture required not just the technological innovations—that was mostly worked out in those first fifty years. What was required for a mature print culture was the transformation of the legal, political, social, and cultural frameworks that were necessary to take advantage of those innovations. We are facing the same thing now. Our electronic journals and e-books are just beginning to break the tethers to their print counterparts. We are only at the beginning stages of understanding what place social media have to play and what the ways are to have productive and civil conversations. It may not take as long to get to a mature digital culture, but it will certainly take a generation or two. You and I will not be around to see it. But you and I have the opportunity to shape it.

The great thing about this is that we can experiment like crazy. We do not have to worry about getting it “right”—we will never know. That will be determined by how the culture shapes itself over the next couple of hundred years. Undoubtedly, many of our experiments will go nowhere, will be seen to be dead ends and wrong turns. In twenty years, “Twitter” may seem as quaint an echo of the past as “Gopher” does now, for those of us who have been around long enough. But some of those experiments will drive the compelling stories that will be told in the future about what it was like at the beginning of the twenty-first century. At the beginning of the great age of librarians.

When I was in library school and I read about the beginnings of the first scientific journals and what was going on in the coffeehouses of London and the cafes of Paris that led to the development of those first journals, I was jealous. How fabulous it must have been, I thought, to be a part of those caffeine-fueled conversations among brilliant people trying to figure out how to use the latest technology to advance science and the public good (while making some money on the side, of course). And yet, here we are, with opportunities before us that those people could not have even dreamed. Imagine how jealous they would be of us.

Thomas Basler, FMLA, gave the Doe lecture a couple of years ago. I have known Tom for my entire library career. He has been a good friend, and I loved his lecture. He called it, “There Are No More Giants,” and it was an elegy, really, for the library world that he grew up in. He came of age during the final flowering of the great age of libraries and has seen much of what thrilled him fade. That’s hard. There is much earned sadness there. He spoke fondly and wistfully of the achievements of the people that he called giants, and he said that there are no more giants. But I think, in this case, Tom was wrong. I believe that there are giants in this room. There is a brilliant future to be made. Tom challenged the audience to go back to their institutions and do one new innovative thing, just one thing to make their organizations better. Tom believes in librarians, and he is a pretty innovative thinker himself. He mourns what has been lost. That is a good thing to do. We are, after all, the protectors of the past as well. But we can’t stay there.

So let me end by referring to another one of the giants, also a former Doe lecturer: Lucretia W. McClure, AHIP, FMLA, who has been a treasured friend and mentor to me and to so many others. Each year, at the New Members/First-time Attendees Breakfast, Lucretia gives a little talk in which she encourages the new members to become involved in the association. She quotes Estelle Brodman as saying, “money talks, but people count.” And she ends her remarks by emphasizing that people make the difference. “A thinking librarian,” she says, “Is the best resource in the library” [19]. And I would amend that now to say, outside of the library as well.

You, all of you, are the librarians of the future. Am I right? Is this the dawn of the great age of librarians? That’s up to you.

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